

COT 3100 Recitation #1: General Math Practice
8/22-26/2016

- 1) Compute the sum of all the roots of $(2x + 3)(x - 4) + (2x + 3)(x - 6) = 0$.

- 2) Cindy was asked by her teacher to subtract 3 from a certain number and then divide the result by 9. Instead, she subtracted 9 and then divided the result by 3, giving her an answer of 43. What would her answer have been had she worked the problem properly?

- 3) Find the degree measure of an angle whose complement is 25% of its supplement.

- 4) For how many positive integers m , does there exist at least one positive integer n such that $mn \leq m + n$?

- 5) Jamal wants to store 30 computer files on floppy disks, each of which has a capacity of 1.44 megabytes (mb). Three of his files require 0.8 mb of memory each, 12 more require 0.7 mb each, and the remaining 15 require 0.4 mb each. No file can be split between floppy disks. What is the minimum number of floppy disks that will hold all the files?

- 6) Sarah pours four ounces of coffee into an eight-ounce cup and four ounces of cream into a second cup of the same size. She then transfers half the coffee from the first cup to the second and, after stirring thoroughly, transfers half the liquid in the second cup back to the first. What fraction of the liquid in the first cup is now cream?

- 7) Mr. Earl E. Bird leaves his house for work at exactly 8 AM every morning. When he averages 40 miles per hour, he arrives at his workplace three minutes late. When he averages 60 miles per hour, he arrives three minutes early. At what average speed, in miles per hour, should Mr. Bird drive to arrive at his workplace precisely on time?

- 8) Both roots of the quadratic equation $x^2 - 63x + k = 0$ are prime numbers. How many possible values for k are there?

- 9) Two different positive numbers a and b each differ from their reciprocals by 1. What is $a + b$?

- 10) The mean, median, unique mode, and range of a collection of eight integers are all equal to 8. What is the largest that an element of this collection could be?